

# Notice of Allowability

Application No.

10/683,615

Examiner

Marissa J. Detschel

Applicant(s)

TANSEY, RICHARD J.

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed My 31, 2006.
2. ☒ The allowed claim(s) is/are 2-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 05172006.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

Gregory J. Tooley, Jr.  
Supervisor, Patent Examiner

## **DETAILED ACTION**

### ***Response to Amendment***

The amendments filed on April 20, 2006 and May 31, 2006 have been entered.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Andrew Spence (RN 45,699) on June 1, 2006.

The application has been amended as follows:

- As to claim 3, line 11, the phrase "is adapted to coherently combine" has been replaced with --is also for coherently combining--
- As to claim 3, lines 27-28, the phrase "is also adapted to receive the reflected beam and rotate" has been replaced with --is also for receiving the reflected beam and rotating--
- As to claim 3, line 30 the phrase "is adapted to receive" has been replaced with --receives--
- As to claim 6, line 4, the phrase "is adapted to drive" has been replaced with --is also for driving--

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- As to claim 6, lines 12-13, the phrase "is adapted to pass the target beam to a telescope adapted to direct" has been replaced with --is also for passing the target beam to a telescope that is also for--
- As to claim 6, lines 18-20, the phrase "is adapted to generate an electrical beat signal based upon the fringe pattern, and demodulate" has been replaced with --is also for generating an electrical beam signal based upon the fringe pattern, and is also for demodulating--
- As to claim 8, lines 4-5, the phrase "is adapted to coherently combine" has been replaced with --is also for coherently combining--
- As to claim 8, lines 8-10, the phrase "is adapted to be subsequently demodulated" has been replaced with --is also for subsequently demodulating--
- As to claim 11, lines 14-16, the phrase "is adapted to receive the horizontally-polarized reflected beam from the quarter-wave plate and thereafter reflect" has been replaced with --is also for receiving the horizontally-polarized reflected beam from the quarter-wave plate and thereafter is also for reflecting--
- As to claim 12, line 28, the phrase "is adapted to be subsequently demodulated" has been replaced with --is also for subsequently demodulating--

***Allowable Subject Matter***

**Claims 2-17 are allowed over the prior art.**

The following is an examiner's statement of reasons for allowance:

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As to claims 3 and 12, the prior art of record, taken alone or in combination, fails to disclose or render obvious the use of a half-wave plate, polarizing beam splitter, and a quarter-wave plate to circularly polarize a vertically-polarized target beam, reflect the beam off the target allowing the beam to be circularly polarized in an opposite direction, use the quarter-wave plate to receive the beam and rotate the plane of polarization ninety degrees, and send the beam back through the polarizing beam splitter in order to reflect the beam to a detector as a non-polarized beam, in a system or a method for measuring a movement of a target with a heterodyne interferometer, in combination with the rest of the limitations of claims 3 and 12.

As to claims 6 and 15, the prior art of record, taken alone or in combination, fails to disclose or render obvious the use of an adaptive optics assembly in the form of a deformable mirror with a heterodyne interferometer including a transmitter assembly capable of superimposing an RF signal on a source signal, in an adaptive optics system or a method for controlling an adaptive optics system, in combination with the rest of the limitations of claims 6 and 15.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

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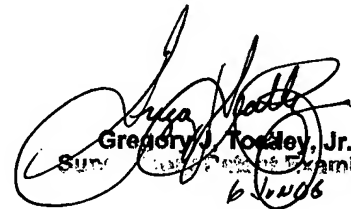
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marissa J. Detschel whose telephone number is 571-272-2716. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571-272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marissa J Detschel  
June 2, 2006

*MJD*

  
Gregory J. Toatley, Jr.  
Supervisor  
6/2/06